

Serial No. 10/550,729

H&C-122

Amendment

Responsive to Office Action dated November 21, 2008

REMARKS**Pending Claims**

Claims 1-7 are pending. Claims 1-7 are elected. Claims 8-10 have been canceled without prejudice or disclaimer for being directed to a non-elected invention. Claims 1-7 have been amended. No new matter has been added.

Restriction Requirement

The applicants respond to the Restriction Requirement by electing the Group I, Claims 1-7.

Claim Rejections Under 35 U.S.C. §112

Claims 8-10 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the invention. The rejection is rendered moot by the cancellation of claims 8-10 without prejudice or disclaimer.

Claim Rejections Under 35 U.S.C. §103

Claims 1-4, 6 and 7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ball et al, U.S. Patent No. 5,125,787, in view of Rogers, U.S. Patent No. 2,085,829. Claims 1-7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ball et al, U.S. Patent No. 5,125,787, in view JP 11-21939.

Applicants request reconsideration of the rejections in view of the foregoing amendments and for the following reasons. In particular, claim 1 has been amended to

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set forth features of the invention that are not disclosed or suggested by Ball, Rogers or JP '939, whether each of these references is considered individually or in combination.

Claim 1 has been amended to set forth that the square tubular structure being claimed comprises a plurality of thin plates and a plurality of thick corner plates. The thick corner plates are greater in thickness than the thin plates and the thick corner plates are integrally joined side to side with the thin plates. Further, the thick corner plates each have a convexly curved shape between the sides of the plates that forms one corner portion of the square tubular structure. This is shown in Figure 8 of the present application, for example, which shows thick corner plates 30 having upper corner portions 22A that are joined at their sides to flat thin plates 28, 29.

According to the invention, the flat thin plates and thick corner plates are joined side by side and the square tubular structure 22 has a U-shaped structure 32 in which the thick corner plates are bent in a convexly curved shape along a center folding line 30A shown in Figures 3 and 4. See the paragraph bridging pages 25 and 26 of the Specification, for example. Accordingly, as a result, the square tubular structure 22 has upper corner portions 22A formed by the thick corner plates 30 and flat sections formed by the flat thin plates. As a result of the arrangement of the claimed invention, the operating arm has sufficient strength for sustaining digging reaction forces that are exerted from the side of the bucket during a digging operation. See the paragraph bridging pages 39 and 40 of the Specification, for example.

Ball discloses a backhoe boom construction that includes having a boom member 45. The boom member is formed by using blanks 110, 111 shown in Figures 7 and 8 that are bent in a manner show in Figures 9-12 with a welding step shown in Figure 13. In

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particular, boom member 45 has channel members 91, 92 having a C-shaped cross section. *See* column 8, lines 44 to 46 of the reference.

Ball does not disclose the square tubular structure of the invention which includes flat thin plates formed into flat sections of the square tubular structure and thick corner plates integrally connected side to side with the flat thin plates, in which the thick corner plates have a convexly curved shape between the sides of the thick plates to form corner portions of the square tubular structure, as claimed. Rather, Rogers discloses a sheet A rolled to form areas of different thicknesses that has thin middle and side portions 5, 6 and thicker intermediate portions 7, 8. *See* page 1, right column, lines 29-51 of the Specification. Further, the sheet A is bent along the bending lines 9 that are formed at the junctions of the thick and thin portions. *See* page 1, right column, lines 37-38 of the reference. Rogers discloses a square hollow beam that is formed by the bending steps and that has a welded joint 10 to complete fabrication of the beam, as shown in Figure 3.

However, Rogers does not disclose thick corner plates having a convexly curved shape between the sides of the thick plates. Rather, Rogers discloses that the bending along lines 9 is along the junctions of the thick and thin portions. Accordingly, there is no advantage of having thick corner plates in Rogers in which the convexly curved shape portion extends between the sides of the thick plates, as claimed by applicants.

The Japan '939 reference does not make up for the deficiencies in Ball and Rogers. In particular, JP '939 discloses a built-up box member, such as a boom, that is formed in a square tubular structure by joining together four steel plates, an upper plate 1U, a lower plate 1D, a left side plate 2L and a right side plate 2R. The upper plate 1U is provided with a thin wall portion between right and left thick wall portions. Accordingly,

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JP '939 merely discloses forming a square tubular structure by welding upper and lower plates with left and right side plates, which is conventional.

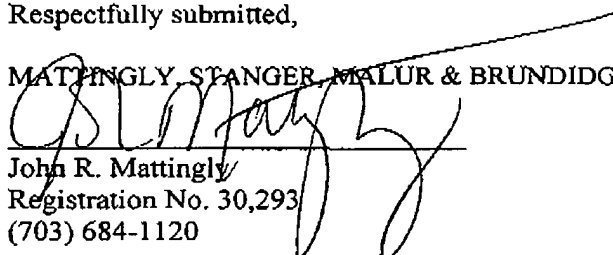
None of the references whether considered individually or in combination discloses the square tubular structure set forth in claim 1 which includes the flat thin plates and thick corner plates integrally connected side to side, and wherein the thick corner plates each have a convexly curved shape portion extending between the sides of the thick plates that form one corner of the square tubular structure. Accordingly, claims 1-7 are patentable over the references relied upon in the rejection and the remainder of the art of record, and accordingly the rejections under 35 U.S.C. §103(a) should be withdrawn.

Conclusion

In view of the foregoing, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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